18.1000 1496, 1454, 1416

S/148/60/000/009/017/025
A161/A030

AUTHORS: Gorelik, S.S., and Spektor, E.N.

TITLE: The dependence of the recrystallization temperature level in single-phase nickel alloys from alloying

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 9, 1960, 120-131

TEXT: The problem had been studied in only few systematical works (Ref. 1-6) and the explanations of dependence are complex, not sufficiently grounded and need verification. In the subject work the regularity of the effect of soluble additives was studied in a wide content range (from 0.1 to 10%) in binary single-phase nickel and iron base alloys (Tables 1 and 2). The base of nickel alloys was electrolytic nickel of 99.98% purity melted in vacuum and cast into 200-300 g ingots that were forged, annealed, rolled to 3 mm thickness and annealed again for cold rolling; the iron base alloys were melted in an open induction furnace under slag; ingots were forged, annealed and drawn to 1.5 mm and annealed again; the final deformation was by drawing. The temperature at the first recrystallization (t_p^H) was deter-

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The dependence of the recrystallization...

mined by the appearance of first interference spots on the background of blurred X-ray interference lines; X-ray pictures were taken in cylindrical chambers in Fe-K_α radiation; the period of solid solution grid in nickel alloys was determined in a ionization unit УРС-50II (URS-50I) in Cu-K_α radiation, and in iron alloys in a cylindrical chamber. The characteristical temperatures Θ and values $m\Theta^2$ (m - reduced mass of alloy atoms) were determined; Θ was determined roentgenographically using the method described in (Ref.7), and the characteristical temperature by variations of the frequency of resilient oscillations (Ref.8) with an accuracy of about $\pm$ 1° K. It was stated that small additions always raised t_p^H, but the recrystallization temperature effect of different elements was different: 0.1% (at.) Ti raised t_p^H in nickel nearly 200°C, 0.1 W only 150°, same quantity of Mo only 50-75°, and of iron and vanadium only insignificantly. The t_p^H rise sometimes stopped and even dropped with increasing content of the second component, and a new rise of t_p^H started mostly with still higher concentration. But a drop instead of a rise of t_p^H was observed in separate systems (Fig.1b) to temperature below the t_p^H of iron (the base). A similar effect had been revealed in alloying chrome with iron (Ref.9). The degree of deformation boosted the

effect of low content of the second component (Fig.2). The total maximum t^{H}_{p} variation range in nickel base alloys was 200-250°C, and iron-base alloys 150-200°. The mechanism of the effect of alloying additions is discussed. Conclusions: 1) The regularity of the additives effect on the temperature level and kinetics of recrystallization in binary single-phase nickel and iron base alloys has been studied. 2) It is proven that the effect of low and high contents of soluble additive is caused by various factors. 3) Low additions always raise the recrystallization temperature, and this the more the greater is the difference between the atomic radius of the additive from the atomic radius of the matrix. The additive atoms tend to stay in the boundary and defective spots in the grid, and this not on account of the relation of surface tension, but mainly on account of the difference between the atomic radii of the base and the additive. The result is a drop of the surface energy and total free energy in the system, the heterogeneity of the grid distortions reduces, and this makes the formation and growth of recrystallization centers more difficult. The assumption has been made that the growth of recrystallization centers is inhibited additionally by the necessity of diffusion - "chasing" of the additive atoms in front of the moving boundary. 4) The effect of high contents of soluble additive is due to the

The dependence of the recrystallization...

nature of the variation of interatomic bond in solution. The beginning recrystallization temperature raises with increasing bond forces, and drops when the bond forces weaken, and may drop below the recrystallization temperature of the base. 5) In the range of high concentrations the recrystallization temperature of solid solutions varies in a function of content of the additive, and more smoothly than in the low concentration range, and depends less on the degree of deformation. 6) The effect of soluble additive in the range of medium concentrations (0.5 - 1.5% at.) depends on the relation between the weakening of the surface effect and the intensity of growing bond forces. There are 8 figures and 14 references: 11 Soviet-bloc and 3 non-Soviet-bloc.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

SUBMITTED: 14 December 1959

S/148/61/000/003/011/015
A161/A133

18.7500 1416

AUTHORS: Gorelik, S. S., Spektor, E. N., Minkina, S. N.

TITLE: Investigating the concentration dependence of the recrystallization temperature level in two-component nickel alloys

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Chernaya metallurgiya, no. 3, 1961, 138 - 147

TEXT: It had been revealed in two previous works that the dependence of the temperature of the beginning of recrystallization (t_r^b) on the concentration of elements in two-component single-phase alloys is of a rather complex nature (Ref. 1 and 2: S. S. Gorelik and E. N. Spektor, Izv. vyssh. uch. zav. Chernaya metallurgiya, 1960, no. 9, and no. 7). The present article presents the results of an investigation of three alloy systems: Ni-Be, Ni-Co, and Ni-Al, in which the second component has either a considerably smaller, or an almost equal, or a considerably larger atomic radius than nickel. The previous data (Ref. 1) led to a new explanation of the causes of the drop of t_r^b after the first maximum in the low-concentration range - that the increasing content of the second element results in a saturation of the lattice boundaries and dislocation spots with the

Investigating the concentration dependence of the...

second element atoms, the surplus of these atoms dissolves in the grain volumes, and this results in a weakening of the effect at dislocations at the time when the bond forces are not yet sufficiently developed. This theory needed an experimental verification. The described work included a comparative study of the effect of Cr in nichrome alloys. The t_r^b point in all alloys was determined by the conventional X-ray method according to the appearance of the first interference spots on the background of the blurred lines. The metal specimens were prepared from metals smelted in vacuum and without vacuum, forged, annealed for homogenation and rolled with 20 and 70% reduction at room temperature. The lattice periods were determined with the aid of a УРС-50И (URS-50I) ionization unit, with $\pm$ 0.0003 kX accuracy. The data obtained proved that low additions always raised the t_r^b of the solvent, also in the case of the atomic radius of the additive being shorter than that of the solvent; e.g. Be raised the t_r^b of Ni abruptly by 200°C. It is difficult to explain but deserves attention that the t_r^b -raising effect of Be ends at 1.8% Be, i.e., at higher concentration than in the case of other additives. The decrease of t_r^b starts only when the Be-content begins to exceed 1.8%. The small size of the Be atom may be the cause of this. Besides, nickel added to copper in a quantity of 0.1% also raised the t_r^b of copper, whose atomic radius is larger than that of Ni. This observation confirms the conclusions made in (Ref. 1) but contradicts the data of two other works (Ref. 3: L. P. Kurilekh, Metallovedeniye

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Investigating the concentration dependence of the ...

1 obrabotka metallov, no. 9, 1959; Ref. 4: E. Pipitz, R. Kieffer, Zeitschrift Metallkunde, 1955, no. 3, 5, 187). Obviously, the effect of a higher degree of deformation raised the effect of low additions on the t_r^b due to a greater number of dislocations and higher elastic stresses. The clearly expressed maximum of t_r^b that was stated in alloys melted without vacuum is explained by the effect of gas atoms (nitrogen in the first place). Conclusions: 1) It has been confirmed that the t_r^b -raising effect of low soluble additions is determined mainly by the absolute difference of the atomic radii, and that this effect is the higher the higher the difference of the radii. The solubility of the additive, its effect on the bond etc. also has an additional effect; 2) It has been confirmed that the decrease of t_r^b observed in many systems after the first maximum in the low-concentration range is connected with the begin of dissolving of the additive's atoms in the grain after saturation of defective spots in the lattice; 3) It has been proven that the abrupt raise of t_r^b in nickel from low Cr additions in the case of melting without vacuum is the result of the combined effect of Cr and gases dissolved in Ni. In vacuum-melted alloys, low Cr additions raise t_r^b of Ni considerably, but not so high as in alloys melted without vacuum, and less than high Cr concentrations. There are 6 figures, 2 tables and 8 references: 7 Soviet-bloc and 1 non-Soviet-bloc.

ASSOCIATION: Moskovskiy institut stali (Moscow Steel Institute)

Card 3/3 SUBMITTED: November 24, 1960

18.9200 26562 S/126/61/012/002/012/019
E111/E435

AUTHORS: Gorelik, S.S. and Spektor, E.N.

TITLE: Investigation of structural changes at small deformations followed by heating from analysis of X-ray interference intensity

PERIODICAL: Fizika metallov i metallovedeniye, 1961, Vol.12, No.2, pp.269-276

TEXT: Study of the mechanisms of small degrees of deformation of metals and alloys, and the effect of deformation, is important for elucidating the mechanisms of creep, "critical recrystallization", etc. The field of small deformations has not been sufficiently studied, leading to divergencies of opinion on the above phenomena. The authors have shown for nickel, and others for iron (Ref.1: Garrod R.J. and Auld J.H. Acta met., 1955, 3, No.2) that analysis of the blurring of X-ray lines by the approximation method is not suitable for detecting structural refinement, i.e. intra-grain displacements at small deformations. The results showed that the width of X-ray interference is not affected by the coherently-scattering regions which do not become less than 0.1 to 0.2 microns in size in structure dispersion at

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small deformations. It would be interesting to know whether at 10 to 12% deformation refinement of structure to regions less dispersed than 0.1 to 0.2 microns occurs. An answer could be provided with the aid of the primary-extinction effect. The object of the present work was to carry out such an investigation. Iron and a nickel-chromium (13% Cr) alloy were used, deformation of cylindrical specimens being effected by upsetting or impact, at deformation rates of 20 mm/min and 4 m/sec respectively. X-ray patterns were obtained from the middle of transversely cut cylindrical specimens (diameter about 30 mm) using an ionization X-ray installation with a copper and cobalt anode for the nichrome and iron, respectively. Steps were taken to avoid errors associated with time fluctuations in the operation of the counter by using a standard sample after each measurement. The standard consisted of a sample of the same composition, work hardened on an emery wheel. The size of coherent regions was determined with the aid of Darwin's equation. Analysis of structural changes at small deformations was effected from the change in the intensity of X-ray interference due to the influence of extinction and texture. Texture begins to appear in

upsetting of iron and nichrome at very small deformations (3 to 6%), the influence of texture on the intensity starting, from about 5 to 7%, to cover that of extinction. This effect becomes more pronounced with increasing rate of deformation. Formation of texture proceeds at lower deformations in nichrome than in iron. Starting with small deformations (1 to 2%) both iron and nichrome show refinement of structure from sizes of the order of a micron to 0.9 - 0.8 at 2% deformation and 0.2 - 0.3 at 10%. Polygonization, proceeding on heating after sub-critical deformation of iron is accompanied by slight enlargement of coherently scattering regions. The nature of the change in substructure on recrystallization after critical and super-critical deformation of iron is very different, providing indirect evidence that the mechanism of these processes is different. Coarse grains formed on recrystallization after critical deformation have a substructure almost as perfect as that of grains undergoing only polygonization on heating; they are considerably less perfect than grains formed on heating after super-critical deformation by formation and growth of recrystallization nuclei. Even at comparatively small degrees of

deformation the determination of the dimensions of coherently-scattering regions of massive specimens from the extinction effect on pairs of lines with different orders of reflection cannot be considered reliable. There are 4 figures and 7 references: 6 Soviet and 1 non-Soviet. The reference to an English language publication reads as follows: Garrod R. and Auld J.H. Acta met., 1955, 3, No.2.

ASSOCIATION: Moskovskiy institut stali im. I.V.Stalina
(Moscow Steel Institute imeni I.V.Stalin)

SUBMITTED: November 15, 1960

GORELIK, S.S.; SPEKTOR, E.N.

Investigating causes of a consertal structure of nichrome-base, heat-resistant alloys. Issl.po zharopr.splav. 8:178-183 '62. (MIRA 16:6)

(Nickel-chromium alloys—Metallography)

GORELIK, S.S.; SPEKTOR, E.N.

X-ray investigation of structural changes in certain crystals undergoing a slight deformation and subsequent heating. Fiz. met. i metalloved. 16 no.6:856-861 D '63. (MIRA 17:2)

1. Moskovskiy institut stali i splavov.

L 8646-65 EWT(m)/EWP(w)/T/EWP(k)/EWP(b) Pf-4 MJW/JD/HW

ACCESSION NR: AP4044136 S/0129/64/000/008/0029/0033

AUTHOR: Gorelik, S. S.; Spektor, Ya. I.; Spektor, E. N.; Konovalov, B. O.

TITLE: Inhomogeneity of the structure of steel tubes after thermo-mechanical treatment

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 8, 1964, 29-33

TOPIC TAGS: martensitic low alloy steel, 40KhSNA steel, steel thermo-mechanical treatment, treated steel structure, structure inhomogeneity, steel property

ABSTRACT: A study has been made of the structural changes along the cross section of high-strength tubes made of low-alloy 40KhSNA martensitic steel after low-temperature thermomechanical treatment (ntmo). The ntmo consisted of a 70% deformation in two-pass transverse roll-rolling, at 550C and subsequent oil quenching. It was found that the transverse rolling produces sharply varying degrees of deformation and structural change along the tube cross section. The outer metal

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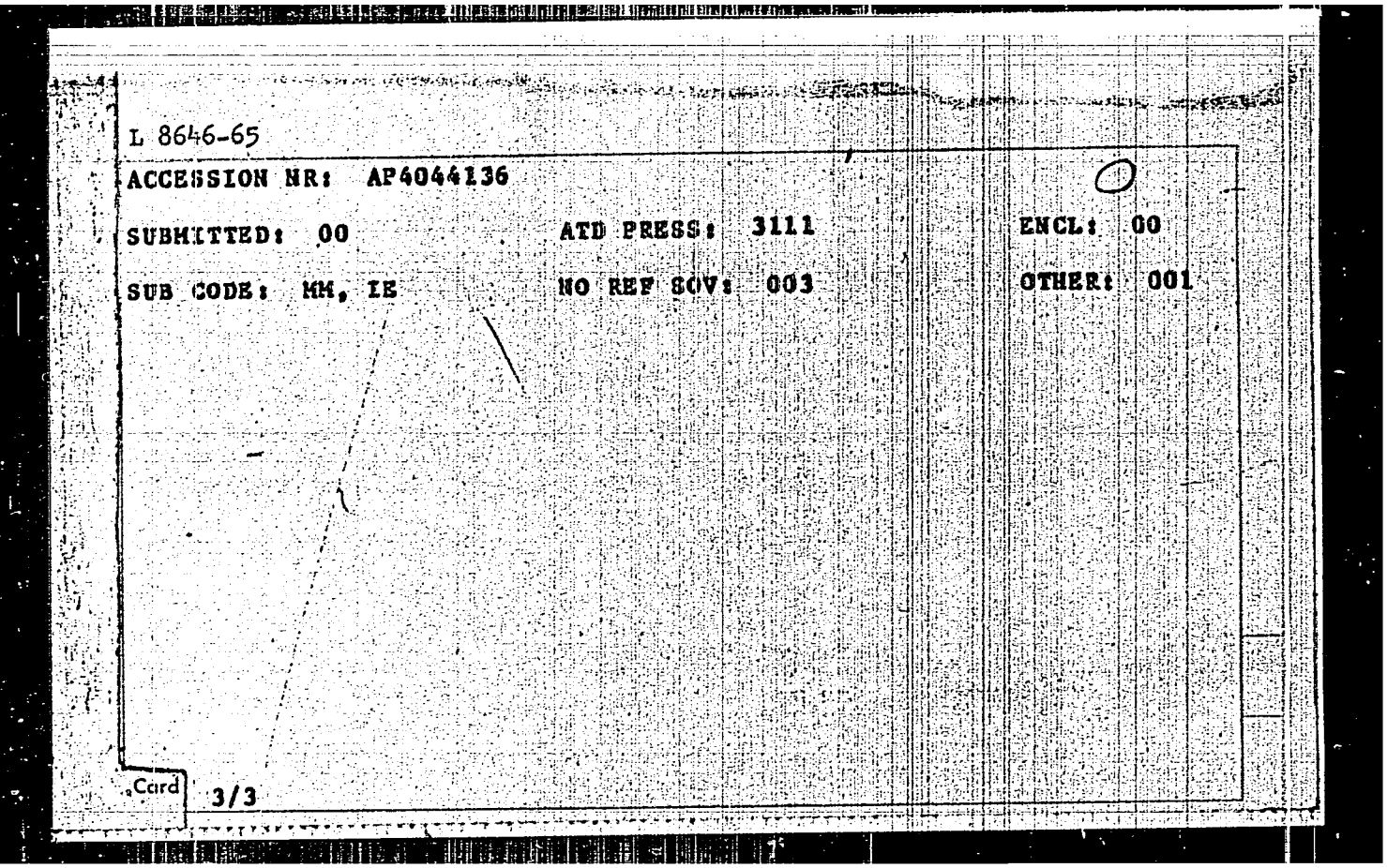
ACCESSION NR: AP4044136

layer, 0.15—0.2 mm thick, undergoes the greatest plastic deformation and, correspondingly, the highest strengthening in the austenitic condition and more pronounced formation of the deformation texture. In deeper layers, 0.3—0.4 mm from the surface, the strengthening and texture formation are less pronounced. The inhomogeneity of the metal flow along the cross section causes elastic stresses reaching 35 to 40 kg/mm^2. The conditions of deformation of the 40KhNSNA-type steel in the austenitic condition in the region of subcritical temperatures (550C) cause a loss of carbon in the austenite of the outer layer, owing to precipitation of carbides during deformation, and, consequently, formation of carbon-poor martensite in subsequent quenching. As a result, this layer, most strengthened in the austenitic condition, is the least strengthened by quenching. The structural, but not the textural, inhomogeneity along the cross section can be partially decreased by an additional heat treatment. Orig. art. has: 3 figures.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute for Steel and Alloys)



L 8646-65

ACCESSION NR: AP4044136

SUBMITTED: 00 ATD PRESS: 3111 ENCL: 00

SUB CODE: MM, IE NO REF SOV: 003 OTHER: 001

Card 3/3

SPEKTOR, E.N.; GORELIK, S.S.; RAKHSHTADT, A.G.

Structural changes in Fe and the alloy of Fe with 3,5% silicon during suboritical annealing. Izv. vys. ucheb. zav.; chern. met. 8 no.7:141-144 '65. (MIRA 18:7)

1. Moskovskiy institut stali i splavov.

L 57818-65 EEC(b)-2/EPF(n)-2/EWP(k)/EWA(c)/EWT(l)/EWT(m)/EWP(b)/T/EWA(d)/EWP(t) Pf-4/Pi-4/Pu-4 IJP(c) GG/JD/HW/JG

ACCESSION NR: AP5008789 S/0126/65/019/003/0424/0431

539.292; 548.0 : 539

52-49 B

AUTHOR: Spektor, E. N.; Gorelik, S. S.; Rakhshtadt, A. G.; Novikova, M. B.

TITLE: Effect of pre-recrystallization annealing on the properties and structure of deformed metals with a body-centered cubic lattice

SOURCE: Fizika metallov i metallovedeniye, v. 19, no. 3, 1965, 424-431

TOPIC TAGS: crystal lattice structure, anisotropy, elastic anisotropy, nonferrous metal alloy

ABSTRACT: Variations in elastic properties are studied in connection with structural changes during pre-recrystallization of metals with a body-centered cubic lattice. The materials in the investigation were commercially-pure niobium, an alloy of niobium with 1 at % titanium and an alloy of molybdenum with a small amount of zirconium(0.2%). In niobium and molybdenum a sharp increase was observed in the elastic limit (resistance to small plastic deformations) which reached 50--100% and was similar to that noted earlier in metals and alloys with a face-centered cubic lattice. In the deformed state niobium and molybdenum are characterized

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L 57818-65
ACCESSION NR: AP5008789

by an insignificant anisotropy in the elastic limit and modulus of normal elasticity. At annealing temperatures near the beginning of recrystallization the anisotropy in the elastic limit of molybdenum disappears, but remains for niobium and an alloy of niobium with titanium. The anisotropy in the modulus of niobium and molybdenum shows a partial reduction. An increase in the deformation temperature of molybdenum to 600°C results in nearly complete disappearance of the anisotropy in the elastic limit both directly after deformation and after annealing. No similar connection exists between the change in the elastic limit and its anisotropy and the change of the crystallographic orientation. Pre-recrystallization annealing does not change the basic type of orientation but is accompanied by a change in the intensity and the dispersion of orientation maxima. Addition of 1 at % titanium has a sharp effect on the orientation of deformed niobium and its change during heating, increases the elastic limit in the deformed state and the degree of anisotropy, and increases the temperature of initial recrystallization. Increasing the rolling temperature of molybdenum to 600°C decreases the scattering of orientation maxima both directly after deformation and after annealing, and also changes somewhat the alignment of the basic orientation maxima. It is concluded that the basic reason for the increase in the resistance of molybdenum and niobium to small plastic deformations is the redistribution of dislocations and disappearance of the most ac-

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tive portion of the dislocations with the formation of a more stable dislocation configuration. The change in resistance to small plastic deformations is considered to be an extremely sensitive characteristic of the structural changes which occur as the result of recovery during pre-recrystallization annealing. Orig. art. has: 6 figures, 2 tables.

ASSOCIATION: Moskovskiy institut stali i splavov (Moscow Institute of Steel and Alloys)

SUBMITTED: 17Feb64 ENCL: 00 SUB CODE: MM, SS

NO REF SOV: 003 OTHER: 002

ACC NR: AP7002864 (N) SOURCE CODE: UR/0149/66/000/006/0127/0129

AUTHORS: Gorelik, S. S.; Spektor, E. N.; Dolgaya, Zh. A.

ORG: Moscow Institute for Steel and Alloys, Department of X-ray Crystallography and Metal Physics (Moskovskiy institut stali i splavov. Kafedra rentgenografii i fiziki metallov)

TITLE: Influence of heating up to the recrystallization temperature on the change of elastic properties and structure of cold-rolled titanium and zirconium

SOURCE: IVUZ. Tsvetnaya metallurgiya, no. 6, 1966, 127-129

TOPIC TAGS: titanium, zirconium, metallurgic research, metal rolling

ABSTRACT: The effect of heating cold-rolled technical grade titanium and zirconium up to the recrystallization temperature on the elastic properties and structure of these metals was studied. The study supplements the results of E. N. Spektor, S. S. Gorelik, A. G. Rakhshtadt, and M. B. Novikov (Fizika metallov i metallovedeniye, t. 19, v. 3, 424, 1965). The experimental technique followed is described by E. N. Spektor, S. S. Gorelik, and A. G. Rakhshtadt (Izv. VUZ, Chernaya metallurgiya 7, 141, 1965). The experimental results are shown graphically (see Fig. 1). It was determined that the structural changes which result during heating of deformed metals are caused by a thermally activated redistribution of lattice dislocations.

Card 1/2 UDC: 539.32.669.017.15

ACC NR: AP7002864

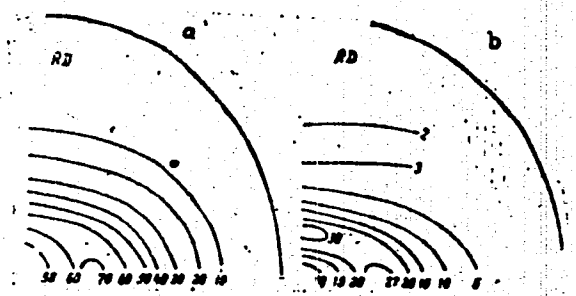

Fig. 1. Polar figures (002) for zirconium (a) and for titanium (b) after cold rolling with 60% compression deformation. $0 \leq \alpha \leq 75^{\circ}$ for Cu radiation

Orig. art. has: 2 graphs.

SUB CODE: 11/ SUBM DATE: 29Sep65/ ORIG REF: 009/ OTH REF: 002

Card 2/2

ACC NR: AP7002432 (N) SOURCE CODE: UR/0219/66/000/012/0024/0028

AUTHOR: Gorelik, S. S.; Spektor, E. N.; Burdasova, T. A.

ORG: Moscow Institute of Steel and Alloys (Moskovskiy institut stali i splavov)

TITLE: Structural changes during annealing of deformed niobium and its alloys

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 12, 1966, 24-28

TOPIC TAGS: niobium, niobium molybdenum alloy, molybdenum zirconium alloy, alloy structure, alloy property

ABSTRACT:

The recrystallization behavior of commercial-grade niobium, niobium alloy with 4% molybdenum, and molybdenum alloy with 0.15% zirconium has been investigated. Extruded, rolled, and annealed alloy sheets were cold rolled with 80—90% reduction and vacuum annealed at 500—1500C for 2 hr. It was found that the temperature of the beginning of recrystallization for niobium was 1050C, whereas that of the other alloys was 1150C. It is noted that in alloys deformed by stretching, the temperature of the beginning of recrystallization was 100—200C higher than that in rolled alloys due to a more uniform deformation in stretching. The entire recrystallization range for niobium and niobium alloy was found to be 100—150C, and that for molybdenum alloy, 200—250C. Annealing of deformed

Card 1/2 UDC: 620.18:669-1/-9-122:669.293'28'24'296

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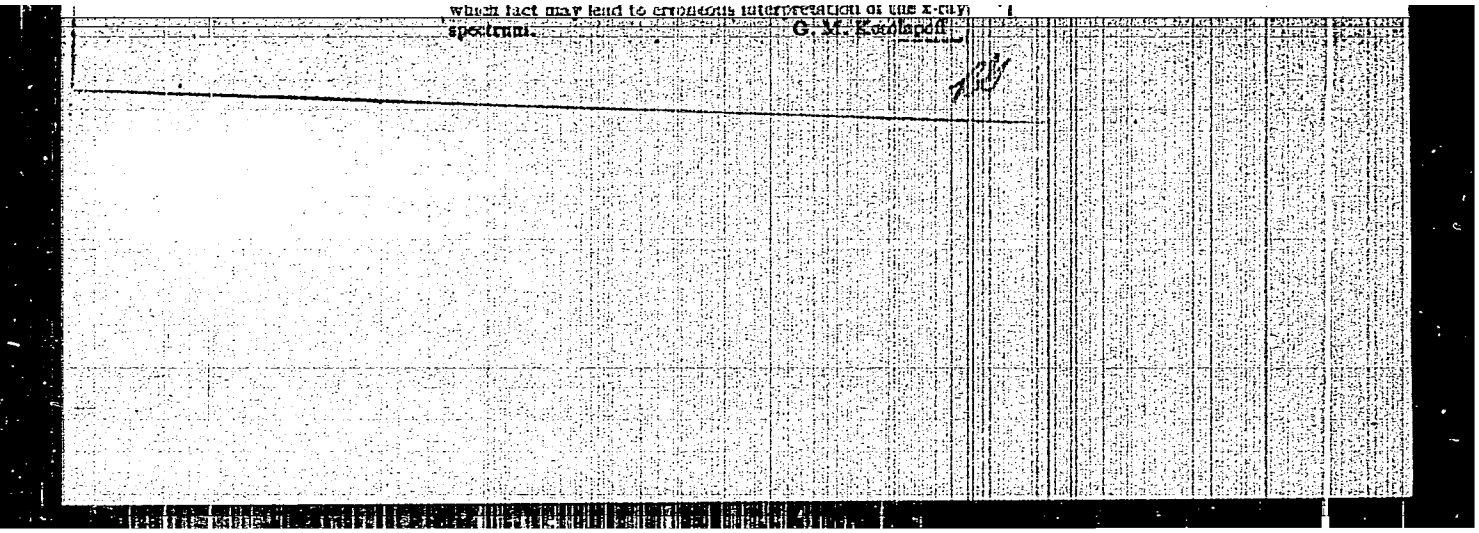
1-42Zc

18

Graphitization of carbonaceous substances. A. M. Rubio and E. Z. Spelter. *Doklady Akad. Nauk S.S.S.R.* 114, 1239–41(1957).—Heating coke to 1700–1800° results in formation of a solid soln of Si in Be from the iron silicate impurity present in the coke, and the x-ray diagrams show narrow lines at angles of 22°35', 31°, and 41°45'. Graphiti-



which fact may lead to erroneous interpretation of the X-ray spectrum.

G. M. Kondapoff

KARAVANOV, G.G., professor; SPEKTOR, F.A., kandidat meditsinskikh nauk

Surgical treatment of acute cholecystitis. Sov.med. 20 no.10:48-55 O '56. (MLRA 10:1)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov) L'vovskogo meditsinskogo instituta (dir. - prof. L.N.Kuzmenko)

(CHOLECYSTITIS, surg.)

SPEKTOR, F.A., kand.med.nauk

Ascariasis of the biliary tract. Sov.med. 21 no.11:134-135 N '57. (MIRA 11:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav.-prof. G.G.Karavanov) L'vovskogo meditsinskogo instituta (dir.-prof. L.N.Kuzmenko).

(BILIARY TRACT, dis.
ascariasis)
(ASCARIASIS, case reports
biliary tract)

KARAVANOV, G.G., prof., SPEKTOR, F.A., kand.med.nauk

Technic of cholecystectomy and choledochotmy in acute cholecystitis. (MIRA 11:10)
Sov.med. 22 no.7:44-49 Jl '58

1. Iz kliniki fakul'tetskoy khirurgii (zav. kafedroy - prof. G.G. Karavanov) L'vovskogo gosudarstvennogo meditsinskogo instituta.
(CHOLECYSTECTOMY, in various dis
acute cholecystitis, technic (Rus))
(BILE DUCT, COMMON, surg.
choledochotomy in acute cholecystitis, technic (Rus))

KARAVANOV, G.G., prof. (L'vov, ul.Bakuninskogo, d.9, kv.5); SPEKTOR, F.A., dotsent

Surgery in acute cholecystitis. Nov.khir.arkh. no.3:3-13 My-Je '59. (MIRA 12:10)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof.G.G.Karavanov) lechebnogo fakul'teta L'vovskogo meditsinskogo instituta.
(GALL BLADDER--DISEASES)

SPEKTOR, F.A.; PAVLOVSKIY, M.P.; FIL'TS, O.V.

Georgii Grigor'evich Karabanov; on his sixtieth birthday. Nov.khir. arkh. no.6:126-127 N-D '59. (MIRA 13:4)
(KARABANOV, GEORGII GRIGOR'EVICH, 1899-)

SPEKTOR, F.A. (L'vov)

Preoperative and postoperative liver function in acute cholecystitis [with summary in English]. Klin.med. 37 no.2:87-90 F '59. (MIRA 12:3)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. G.G. Karavanov) L'vovskogo meditsinskogo instituta (dir. - prof. L.N. Kuzmenko).

(CHOLECYSTITIS, surgery,
preop. & postop. liver funct. (Rus))
(LIVER, in var. dis.
cholecystitis, preop. & postop. variations (Rus))

KARAVANOV, G.G., prof. (L'vov, ul.Saksaganskogo, d.9,kv.5); SPEKTOR, F.A., kand.med.nauk

Repeated operations on the biliary tract. Nov. khir. arkh. no.1: 27-32 Ja-F '60. (MIRA 15:2)

1. Kafedra fakul'tetskoy khirurgii (zav. - prof. G.G.Karavanov), lechebnogo fakul'teta L'vovskogo meditsinskogo instituta.
(BILIARY TRACT--SURGERY)

Spektor, F.U.

AUTHORS: Milyutin, V.I., Fetisov, D.V., Raspletin, K.K., Spektor, F.U., Pochtarev, B.I. 32-1-38/55

TITLE: Simplified Electrostatic Electron Microscope (Uproshchenyy elektrostaticheskiy elektronnyy mikroskop).

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 1, pp. 92-96 (USSR)

ABSTRACT: In this paper the model of the simplified electrostatic microscope for 45 kV (МЭМ -45) is described. The apparatus consists of two separate parts: the microscope proper with feeding device (700x500x1400 mm) and the vacuum apparatus (700x400x1150 mm). The efficiency of the apparatus amounts to 50-60 Å, while 1500 to 8000-fold electron-optical enlargement is attained in four steps by the potential modification of an intermediary lens. The field of observation has a diameter of 62 mm. The apparatus makes it possible to deal with 5 samples, one after the other, and to take 10 photographs (including stereophotographs), without hereby disturbing the vacuum. By means of this microscope it is also possible to take diffraction- and emission pictures of heated objects. In this case the cathode is replaced by the sample, and another anode

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Simplified Electrostatic Electron Microscope 32-1-38/55

is fitted. In the case of the diffraction picture, a number of lenses is taken out. In the vacuum plant the diffusion pump "MM-40-A" and the pre-vacuum pump "BH-461" are fitted. The same device can also be used as a vacuum atomizer, for which purpose it is fitted out with various additional devices. The feeding device of the microscope consists of: 1 rectifier for 50 kV, a device for regulating cathode heating, a voltage regulator, a control board for the microscope and the vacuum plant as well as of the additional devices. (The following additional devices are mentioned: a "Tesla" transformer, a voltage stabilizer, etc.). There are 6 figures and 1 Slavic reference.

AVAILABLE: Library of Congress

Card 2/2 1. Electrostatic microscope-Nomenclature

AUTHORS: Milyutin, V.I., Fetisov, D.V., SOV/48-23-4-5/21
Raspletin, K.K., Spektor, F.U., Pochtarev, B.I.

TITLE: Small-sized Electrostatic Microscopes
(Malogabaritnyye elektrostaticheskiye mikroskopy)

PERIODICAL: Izvestiya Akademii nauk SSSR, Seriya fizicheskaya, 1959,
Vol 23, Nr 4, pp 454 - 458 (USSR)

ABSTRACT: First, mention is made of the electron microscopes produced industrially (EM-3, UEM-100) and the fact is pointed out that simpler and cheaper electrostatic microscopes suffice for a great part of operations. Some small-sized electrostatic microscopes have been developed. Figure 1 shows a 40 kv electrostatic table electron microscope with a 1200-5600fold magnification range and a resolving power of up to 50 Å. Next, a description is given of the instrument MESM-45, which is being considered for industrial production. The instrument consists of two units: microscope with source of current and vacuum system. The three-part electron accelerator is described, followed by the microscope slide and the lens system. Camera with fluorescence screen and plateholder and ocular tube, which features a 5fold optical magnification, are fitted

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under the lens block. The vacuum system consists of the mechanical pump VN-461 and the diffusion pump MM-40-A. The diagram of the current source of the instrument is shown in figure 5. At a maximum load of 100 μA the current fluctuation amounts to 0.005%. Finally, the mechanical construction and applicability are described. There are 5 figures and 2 Soviet references.

AUTHORS: Fetisov, D. V., Spektor, F. U., Milyutin, V. I., Raspletin, K. K. SOV/48-23-6-6/28

TITLE: On the Resolving Power of Electrostatic Electronic Miscroscopes (O razreshayushchey sposobnosti elektrostaticheskogo elektronnogo mikroskopa)

PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 6, pp 690 - 693 (USSR)

ABSTRACT: By the influence of aberration, caused by the asymmetry of the optical system, the chromatic aberration and other factors, the theoretically attainable resolving power of electrostatic electronic microscopes, which would be limited solely by electron diffraction and spherical aberration is not attained. In the present paper the influence exercised by the asymmetry of the field of electrostatic lenses and of the entire optical system, the influence of the variation of the spherical aberration of the lenses, and the effects of the pulsation of the acceleration voltage of the instrument are investigated. Field asymmetry depends on the geometric dimensions of the individual electrodes of the lenses, and, first of all, the connection between the oval electrodes of the lenses and resolving power is investigated.

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On the Resolving Power of Electrostatic Electronic Microscopes

SOV/48-23-6-6/28

Results obtained by measurements show an increase in resolution with a reduction of the oval shape of the lens electrodes. In a similar manner the influence exercised by the aberration from the axial arrangement and the results obtained are shown by four diagrams (Figs 2,3). A stigmatizer is then briefly described, which is partly able to eliminate these errors. For the investigation of the spherical aberration of an electrostatic objective, in which the focal plane of the lens is outside the range of the field, a schematical drawing is first given, after which a constant of aberration is introduced. This constant depends on the geometric dimensions of the middle electrode and its potential. Various adjustments are investigated, and the results obtained are shown by a table. The most satisfactory results were obtained when the focal plane was approached as far as possible to the lens. Finally, the influence exercised by the pulsation of the direct current was investigated at various amplitudes exercised by them upon resolving power. There are 5 figures, 1 table, and 3 references, 1 of which is Soviet.

Card 2/2

KUSHNIR, Yu.M.; FETISOV, D.V.; RASPLETIN, K.K.; POCHTAREV, B.I.; SPEKTOR, F.U.; KABANOV, A.N.; ANISIMOV, V.F.

Scanning electron microscope, an X-ray microanalyzer. Izv.AN SSSR. Ser.fiz. 25 no.6:695-700 Je '61. (MIRA 14:6)
(X-ray microscope)

S/048/63/027/003/020/025
B106/B238

AUTHORS: Kushnir, Yu. M., Fetisov, D. V., Raspletin, K. K., Pochtarev, B. I., Spektor, F. U., Gurova, R. P., Tokarev, I. D., Osipov, V. N., and Pavlov, V. A.

TITLE: A modified raster microscope - local X-ray microanalyzer and its use

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 27, no. 3, 1963, 415-419

TEXT: A modified scanning electron microscope - local X-ray microanalyzer is described briefly, and a few data are on its use in investigating metals, minerals and semiconductors presented. The crystal X-ray spectrometer of the apparatus makes it possible to analyze the radiation of elements from magnesium to uranium. The dead time of the counter tube does not permit of obtaining qualitative X-ray patterns when the scanning velocities are high. The authors therefore developed a system of slow scanning which provides a scanning field with a 1 : 1 format and a resolution of 200 - 300 lines at 1 frame/min. The area of the scanning

A modified raster microscope - local ...

field on the object amounts to 0.04 to 0.25 mm^2. Under these conditions, the dead time of the counter tube imposes practically no limit on the resolution of the characteristic X-rays patterns. A block of slow sweeps serves for observing the images visually, and is provided with a moving film camera with a large afterglow. A second moving film camera, synchronized with the first, records the images photographically; it focuses the spot sharply and has a high accelerating voltage. The characteristic X-ray pattern were also recorded using an NaI-crystal scintillation counter which worked satisfactorily at wavelengths below 1.5 Å. The sharpness and contrast of the images obtained due to the secondary electrons were increased by a special device for correcting the frequency characteristics of the video amplifier block. This was done by filtering out signals between 25 and 150 cps and those near to 5 Mcs. The improvements of the basic elements of the X-ray microanalyzer made it possible to obtain characteristic X-rays patterns for the first time, and to undertake comparitive studies of a few objects on the basis of the microphotographs. Besides making it possible to obtain reflected characteristic electron beam and X-ray patterns for macroscopic surfaces, the instrument also permits the vizualization of p - n transitions in

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semiconductors. The band width of the barrier layer depends on the applied voltage and can easily be determined. The authors are now working to develop a raster microscope - local X-ray analyzer as an industrial model; this will feature magnetic optics, thus making it possible to achieve high resolution and a much higher current density in the electron probe. There are 5 figures.

KUSHNIR, Yu.M.; FETISOV, D.V.; DER-SHVARTS, G.V.; POCHTAREV, B.I.; TOKAREV, P.D.; RASPLETIN, K.K.; SPEKTOR, F.U.; GUROVA, R.P.; POSTNIKOV, Ye.B.; OSIPOV, V.N.; PAVLOV, V.A.; POGUDINA, M.V.

Combined scanning electron microscope and X-ray microanalyzer with magnetic electron optics. Izv. AN SSSR. Ser. fiz. 27 no.9: 1166-1172 S '63. (MIRA 16:9)
(Electron microscope) (X-ray spectroscopy)

KOZLOV, P.A.; SPEKTOR, G.A.

Modernizing the BS-24 automatic machine. Stek. i ker. 22 no.3:40 Mr '65. (MIRA 18:10)

1. Direktor Kiyevskogo zavoda khudozhestvennogo stekla (for Kozlov).
2. Glavnyy tekhnolog Kiyevskogo zavoda khudozhestvennogo stekla (for Spektor).

RETTER, Egon Ivanovich, dotsent, kand.tekhn.nauk; SPEKTOR, G.L., red.

[Aerodynamic characteristics of industrial buildings] Aerodinamicheskaia kharakteristika promyshlennykh zdanii. Cheliabinsk, Akad.stroit.i arkhit.SSSR, Ural'skii filial, 1959. 201 p.
(MIRA 13:5)

1. Rukovoditel' laboratorii stroitel'noy fiziki Ural'skogo filiala Akademii stroitel'stva i arkhitektury (for Retter).
(Factories--Heating and ventilation) (Wind pressure)

SPEKTOR, G.L., red.

[Phase composition of three-component clinkers; work of the laboratory of physico-chemical research] Fazovyi sostav trekhkomponentnykh klinkerov; raboty laboratorii fiziko-khimicheskikh issledovanii. Cheliabinsk, 1962. 70 p. (MIRA 17:4)

1. Akademiya stroitel'stva i arkhitektury SSSR. Ural'skiy filial, Chelyabinsk.

GOLYSHEV, A.B., kand. tekhn. nauk, red.; SPEKTOR, G.L., red.

[Reinforced concrete elements; theoretical and experimental studies] Zhelezobetonnye konstruktsii; teoreticheskie i eksperimental'nye issledovaniia. Sbornik trudov. Cheliabinsk, Akad.stroit. i arkhit. SSSR, 1963. 259 p. (MIRA 17:3)

Spektor, G. S.

USSR/Chemistry - Catalytic cracking

Card 1/1 Pub. 151 - 7/38

Authors : Potolovskiy, L. A., and Spektor, G. S.

Title : Cracking of normal paraffinic hydrocarbons in the presence of aluminum chloride. Part 1.- Cracking of n-heptane and n-nonane

Periodical : Zhur. ob. khim. 24/2, 225-231, Feb 1954

Abstract : The effect of molecular weight of basic normal paraffinic hydrocarbons and cracking conditions in the presence of $AlCl_3$ on the composition of final cracking products was investigated. The products obtained consisted of greater numbers of isomers with the methyl group in the second carbon atom and lesser quantities of hydrocarbons with the methyl group in position 3, as well as branched isomers with two methyl groups in 2,3 and 2,4 positions and isomers with quaternary carbon atom. The content of the gaseous cracking products is described. The advantages of HCl in the role of cracking reaction accelerator are discussed. Nineteen references: 7-USSR; 4-USA; 2-English; 2-German and 4-French (1881-1947). Tables; drawing.

Institution : Central Scientific Research Institute of Aviation Fuels and Lubricants

Submitted : May 16, 1953

Spektor, G. S.

USSR/Chemistry - Catalytic cracking

Card 1/1 : Pub. 151 - 6/37

Authors : Potolovskiy, L. A., and Spektor, G. S.

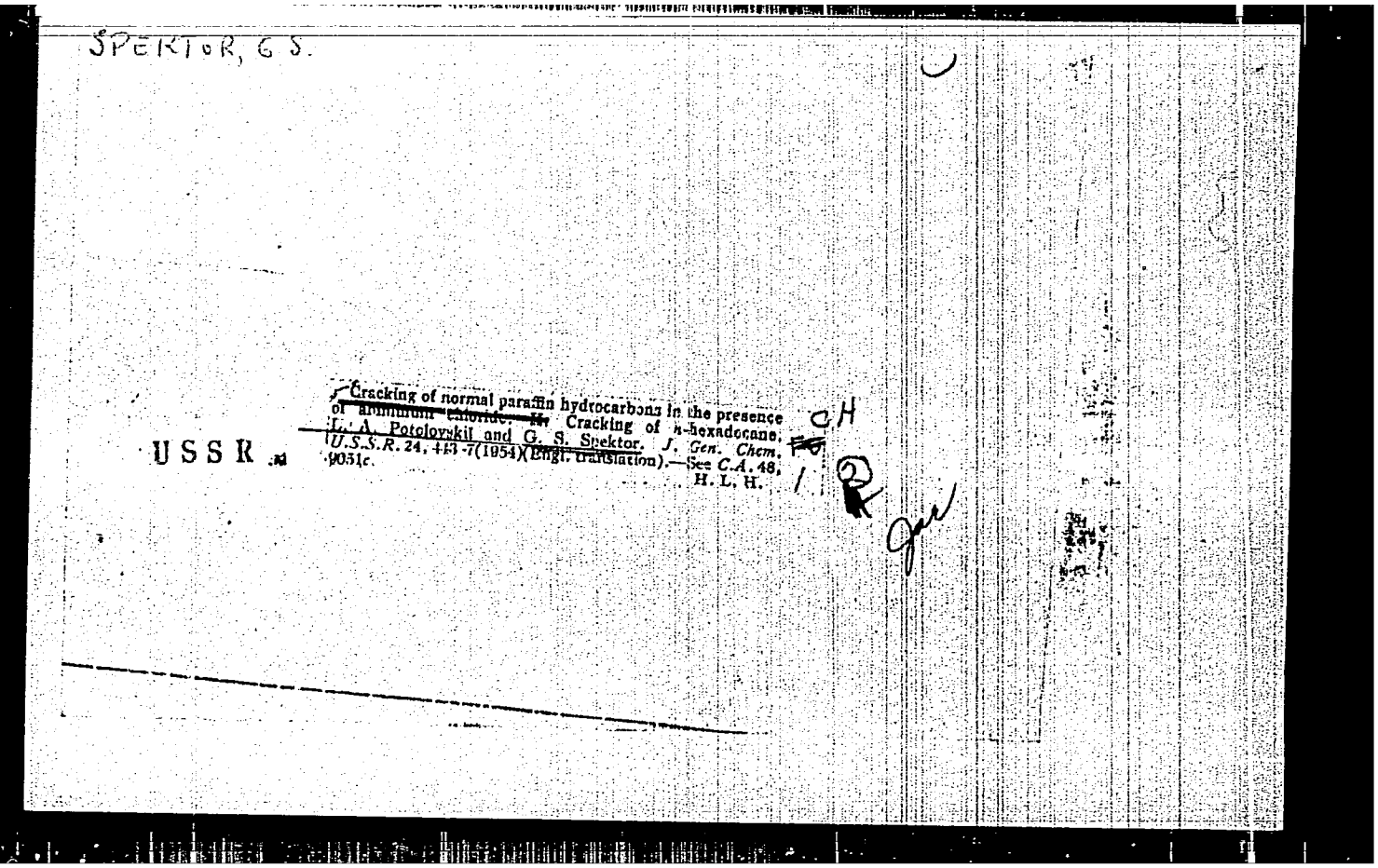
Title : Cracking of normal paraffinic hydrocarbons over $AlCl_3$. Part 2.-Cracking of n-hexadecane

Periodical : Zhur. ob. khim. 24/3, 434-439, Mar 1954

Abstract : The products (isomers) obtained from the cracking of isoparaffinic hydrocarbons (n-hexadecane) over an $AlCl_3$ catalyst are tabulated. The amount of $AlCl_3$ and the presence of HCl at a 200-250° temperature range were found to have no effect on the composition of the final n-hexadecane cracking products but are rather factors determining the rate of reaction. The composition of the gaseous cracking products is described. It was established that the hydrocarbons, separated from residues formed during the cracking of n-heptane, n-nonane and n-hexadecane over $AlCl_3$ catalysts are highly unsaturated compounds. The similarity in the composition of the cracking products confirms the analogy in the mechanism of decomposition of n-paraffinic hydrocarbons of various molecular weight. Seven references: 5-USSR; 1-French and 1-German (1927-1954). Tables.

Institution: Central Institute of Aviation Fuels and Lubricants

Submitted : May 16, 1953



SPEKTOR, G. S.

USSR

Cracking of normal paraffin hydrocarbons in the presence of aluminum chloride. III. Cracking of n-hexadecane. L. A. Potolovskii and G. S. Spektor. *J. Gen. Chem. U.S.S.R.* 24, 1413-7(1954)(Engl. translation).—See *C.A.* 48, 9051c. H. L. H.

AID P - 3578

Subject : USSR/Chemistry

Card 1/1 Pub. 152 - 15/20

Authors : Potolovskiy, L. A. and G. S. Spektor

Title : Cracking of technical grade paraffin

Periodical : Zhur. prikl. khim., 28, 7, 766-772, 1955

Abstract : The main products resulting from cracking of paraffins in the presence of $AlCl_3$ are isoparaffins of low molecular weight. The cracking of Groznyy paraffin yielded isobutane (19-32%), isopentane (20-24%), isohexanes (11-16%), and isoheptanes (4-9%). Six tables, 1 diagram, 8 references, all Russian (1881-1954).

Institution : None

Submitted : O 29, 1953

SPEKTOR, G.S.; BOTNIKOV, Ya.A.; BRUSINA, V.A.

Nitrogen organic compounds in the Devonian oil of the Tuymazy field. Khim.sera i azotorg.soed.sod.v neft.i nefteprod. 3:193-197 '60. (MIRA 14:6)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Petroleum coke) (Sulfur--Analysis) (Nitrogen--Analysis)

SPEKTOR, G.S.; BOTNIKOV, Ya.A.; BRUSINA, V.A.

Chemical composition of the products of coking. Khim. i tekh. topl. i masel 6 no.3:22-25 Mr '61. (MIRA 14:3)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut po pererabotke nefti i gaza i polucheniyu iskusstvennogo zhidkogo topliva.
(Petroleum products)

YELSHIN, K.V.; SPEKTOR, I.B.

Evaporation losses of gasoline in storage terminals and the measures for reducing them. Trudy NIITransneft' no.1:247-253 '61. (MIRA 16:5)

(Gasoline) (Evaporation control)

YELSHIN, K.V.; SPEKTOR, I.B.; GUMEROV, A.G.

Evaporation losses of petroleum and petroleum products from tank farms of petroleum refineries and the measures for their substantial reduction. Trudy NIITransneft' no.1:240-246 '61. (MIRA 16:5)
(Evaporation control) (Tanks)

SPEKTOR, I.B.; GALEYEV, V.B.

Fitting pipelines in the compressor station No. 14. Stroi. truboprov. 9 no.3:19-22 Mr '64. (MIRA 18:2)

1. Montazhnyy uchastok No.5 Stroitel'no-montazhnogo upravleniya No.74 tresta Nefteprovodmontazh, Ufa (for Spektor). 2. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut (for Galeyev).

SPEKTOR, I.B.; GALEYEV, V.B.

Installation of equipment for compressor stations with electric drives. Stroi. truboprov. 10 no.1:22-25 Ja '65. (MIRA 18:4)

1. Stroitel'no-montazhnoye upravleniye No.74 tresta Nefteprovodmontazh, Ufa (for Spektor). 2. Ufimskiy neftyanoy nauchno-issledovatel'skiy institut (for Galeyev).

KISAROV, V.M.; SPEKTOR, I.E.; PAVLOV, D.M.; MAL'KOVA, N.V.; SDOBNOV, A.K.

Receovery of chlorobenzene from waste waters. Khim.prom. no.3:216-217 Mr '62. (MIRA 15:4)
(Benzene) (Sewage--Purification)

SPEKTOR, I.M.

Some characteristics of psycho- and vegetative pathology in craniopharyngioma. Kaz. med. zhur. 4:54-55 Jl-Ag'63
(MIRA 17:2)

1. Kazanskaya psikhonevrologicheskaya bol'nitsa (glavnyy vrach T.N. Suvorova, zav. patologoanatomicheskim otdeleniyem - prof. Ya.Ye. Braul).

SPEKTOR, L.

Introducing advanced equipment. Mest.prom.i khud.promys. 1 no.2/3: 2-3 N-D '60. (MIRA 14:4)

1. Nachal'nik oblastnogo upravleniya mesnoy promyshlennosti, Tambov. (Tambov Province--Industrial equipment)

BADALOV, S.T.; UKLONSKIY, A.S., akademik, prof., otv. red.; SPEKTOR, L., red.

[Mineralogy and geochemistry of the endogenic deposits of the Almalyk ore region] Mineralogiia i geokhimiia endogennykh mestorozhdenii Almalykskogo rudnogo raiona. Tashkent, Izd-vo "Nauka" Uzbekskoi SSR, 1965. 274 p. (MIRA 18:10)

1. Akademiya nauk UzbekSSR (for Uklonskiy).

SPEKTOR, L.

Reconditioning the blocks of main engines. Mor. flot 25 no.10:28-29 O '65. (MIRA 18:11)

1. Starshiy inzh. tekhnicheskogo otdela Sakhalinskogo upravleniya morskogo flota.

L 06224-67 EWP(e)/EWT(m)/EWP(t)/ETI IJP(c) JD/WH

ACC NR: AP6023604 SOURCE CODE: UR/0308/66/000/007/0022/0022

AUTHORS: Spektor, L. (Senior engineer); Malyshev, G. (Chief)

ORG: /Spector/ Technical Section of the Sakhalin Division of the Marine Fleet (Tekhnicheskiy otdel Sakhalinskogo upravleniya morskogo flota); /Malyshev/ Far East Steam Transport (Dal'nevostochnoye parokhodstvo)

TITLE: A test of applying lapping pastes of synthetic diamonds

SOURCE: Morskoy flot, no. 7, 1966, 22

TOPIC TAGS: metal surfacing, machine tool, abrasive, abrasive mineral, diamond

ABSTRACT: The authors describe experimentation into the use of lapping pastes of synthetic diamonds. This type of material was first developed in the SSSR by the Institute of Superhard Materials (Institut sverkhtverdykh materialov), which is now engaged in the large scale production of diamond-lapping pastes for a variety of industrial uses. The use of the new material is said to allow a much higher productivity of lapping machine operations in the case of relatively rough surface preparation, and on the smooth surface case a much higher degree of smoothness can be obtained in less machining time. The authors briefly discuss the graininess and concentration of the material and a means of identifying the reduction of the ground material through observation of the change in color of the abrasive. The synthetic

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L 0622[illegible]-67
ACC NR: AP6023604

diamond grinders were used in preparing ship parts for the Sakhalin Marine Fleet Division on an experimental basis. Several abrasive grades were tested on several metals (including copper and steel) and on other materials. High quality results were generally obtained if careful consideration was given to the selection of the proper grade abrasive for a particular material.

SUB CODE: 13/ SUBM DATE: none

Card 2/2 ZC

ACC NR: AP7002615 (A, N) SOURCE CODE: UR/0413/66/000/023/0129/0130

INVENTOR: Golovko, V. Ya.; Spektor, L. A.; Agranat, A. R.; Mezhakov, V. A.; Khodorchenko, A. S.; Olifir, V. P.

ORG: None

TITLE: A radial plunger pump. Class 59, No. 189314 [announced by the Gorlovka Machine Building Plant im. S. M. Kirov (Gorlovskiy mashinostroitel'nyy zavod)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 23, 1966, 129-130

TOPIC TAGS: hydraulic pump, fluid friction

ABSTRACT: This Author's Certificate introduces a radial plunger pump with a rotating cylinder block. The pump is designed for operation as a high-efficiency submerged unit by eliminating oil friction in the rotating components. The cylinder block is enclosed in a chamber with two vent holes, one to permit escape of the oil from the chamber under the effect of centrifugal forces, and the other to prevent the formation of a vacuum in the chamber by communicating with the atmosphere.

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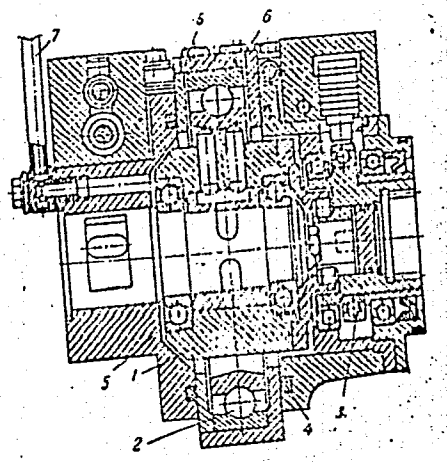
ACC NR: AP7002615



1--rotor; 2--bearing; 3--shaft; 4--seal; 5--chamber; 6--hole for escaping oil; 7--hole communicating with the atmosphere

SUB CODE: 13/ SUBM DATE: 16Dec64

Card 2/2

YATSKIKH, Valerian Grigor'yevich, kand.tekhn.nauk; ROZENBERG, Boris Lazarevich, kand.tekhn.nauk; IMAS, Aleksandr Davidovich, inzh.; MAKSIMOV, Vladimir Leonidovich, inzh.; Prinimal uchastiye: SPEKTOR, L.A., inzhener-konstruktor. LADYGIN, A.M., otv.red.; SHOROKHOVA, A.V., red.izd-va; IL'INSKAYA, G.M., tekhn.red.

[Mining machinery] Gornye mashiny. Moskva, Gos.nauchno-tekhn. izd-vo lit-ry po gornomu delu, 1959. 507 p. (MIRA 12:12)

1. Gorlovskiy zavod im. S.M.Kirova (for Spektor).
(Mining machinery)

LIPIS, B.V.; MAMAKOV, A.A.; YEPIFANOV, P.V.; Prinimali uchastiye: SPEKTOR, L.A.; LYALIKOVA, R.Yu.

Deaeration of grape juice. Trudy MNIIPP 2:81-86 '62. (MIRA 16:4)
(Grape juice)

YATSKIKH, Valerian Grigor'yevich, kand. tekhn. nauk; ROZENBERG, Boris Lazarevich, kand. tekhn. nauk; IMAS, Aleksandr Davydovich, inzh.; SPEKTOR, Leonid Abramovich, inzh.; KHORIN, D.N., doktor tekhn. nauk, retsenzent; LOKHANIN, K.I., inzh., retsenzent; FEYGIN, L.M., inzh., retsenzent; ABRAMOV, V.I., inzh., red.izd-va; MINSKER, L.I., tekhn. red.

[Mining machines] Gornye mashiny. [By] V.G.IAtskikh i dr. Moskva, Gosgortekhizdat, 1963. 382 p. (MIRA 16:10)
(Coal mining machinery)

NIKOLYUK, V.F., doktor biol. nauk, otv. red.; ASKAROVA, S.A., kand. biol. nauk, otv. red.; REZNIKOVA, F.L., red.; SPEKTOR, L.Ye., red.; KARABAYEVA, Kh.U., tekhn. red.

[Soil and agricultural microbiology] Pochvennaia i sel'skokhoziaistvennaia mikrobiologiia; materialy. Tashkent, Izd-vo AN Uzb.SSR, 1963. 330 p. (MIRA 16:11)

1. Konferentsiya po sel'skokhozyaystvennoy i pochvennoi mikrobiologii, Tashkent, 1961.
(Agricultural microbiology--Congresses)

BOGDANOV, O.P., kand. biol. nauk, otv. red.; SPEKTOR, L.Ye., red.; KVYATKOVSKAYA, V.V., red.

[Ecology and economic significance of vertebrates in southern Uzbekistan (the Surkhandar'ya basin)] Ekologiia i khoziaistvennoe znachenie pozvonochnykh zhivotnykh iuga Uzbekistana (bassein Surkhandar'i). Tashkent, Nauka UzSSR, 1964. 157 p. (MIRA 18:12)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut zoologii i parazitologii.

MAVLYANOV, G.A., akademik, otv. red.; AKRAMKHODZHAYEV, A.M., red.; KENESARIN, N.A., red.; KHAMRABAYEV, I.Kh., doktor geol.-miner. nauk, red.; SHAVLO, S.G., doktor geol.-miner. nauk, red.; PETROV. N.P., kand. geol.-miner. nauk, red.; SPEKTOR, L Ye., red.

[Problems of the geology and minerals of Uzbekistan; papers of the geologists of Uzbekistan for the 22d. Session of the International Geological Congress in 1964] Problemy geologii i poleznykh iskopaemykh Uzbekistana; trudy geologov Uzbekistana k XXII sessii Mezhdunarodnogo geologicheskogo kongressa 1964.g. Tashkent, Nauka UzSSR, 1964. 194 p. (MIRA 18:1)

1. Akademiya nauk Uzbekskoy SSR, Tashkent. Institut geologii i geofiziki. 2. Akademiya nauk Uzbek.... (for Mavlyanov, Kenesarin). 3. Chlen-korresponde... akademii nauk Uzbek.SSR (for Akramkhodzhayev).

PETROV, N.P., kand. geol.-miner. nauk, otv. red.; VORONICH, T.M., kand. geol.-miner. nauk, red.; GOR'KOVOY, O.P., kand. geol-miner. nauk, red.; KENZIN, I.A., kand. geol.-miner. nauk, red.; MUSIN, R.A., kand. geol.-miner. nauk, red.; SPEKTOR, L.Ye., red.

[Geology and minerals of Uzbekistan] Geologiia i polezmye iskopaemye Uzbekistana. Tashkent, Nauka, 1964. 199 p. (MIRA 17:5)

1. Akademiya nauk Uzbekskoy SSR. Tashkent. Institut geologii i geofiziki.

ABDULLAYEV, Kh.M.; MUSIN, R.A., kand. geol.-min. nauk, otv. red.; MAVLYANOV, G.A., akademik, glav. red.; BAYMUKHAMEDOV, Kh.N., doktor geol.-min. nauk, red.; KHAMRABAYEV, I.Kh., doktor geol.-min. nauk, red.; BORISOV, O.M., kand. geol.-min. nauk, red.; GOR'KOVOY, O.P., kand. geol.-min. nauk, red.; KUCHUKOVA, M.S., kand. geol.-min. nauk, red.; MATSOKINA, T.M., kand. geol.-min. nauk, red.; SPEKTOR, L.Ye., red.

[Collected works] Sobranie sochinenii. Tashkent, Nauka, Uzbekskoi SSR. Vol.3. 1964. 448 p. (MIRA 18:2)

1. Akademiya nauk Uzbekskoy SSR (for Mavlyanov).

ZYRYANOV, V., kand. tekhn. nauk; LIZAREV, A., kand. tekhn. nauk; SPEKTOR, M., kand. tekhn. nauk

Variants of units for shoring panels of apartment houses in series 1-468. Zhil. stroi. no.1:26-28 '64. (MIRA 18:11)

GEMDEL'MAN M. (TSelinograd); SPEKTOR, M. (TSelinograd); SHEVCHENKO, P. (TSelinograd)

Planning agricultural regions. Vop. ekon. no.9:127-133 S '62. (MIRA 15:9)

(Virgin Territory--Rural planning)

ZVEDRIS, L. [Zviedris, L.], deputat Verkhovnogo Soveta Latviyskoy SSR (Riga); SPEKTOR, M. (Riga)

You are taking a rest in the Baltic Sea region. Sov. profsoiuzy 19 no.8:20-21 Ap '63. (MIRA 16:6)

1. Glavnyy vrach sanatoriya "Kemeri" (for Zvedris).
2. Korrespondent "Meditsinskoy gazety" po Pribaltiyskim respublikam (for Spektor).
(Latvia—Health resorts, Watering places, etc.)

MATVEYEV, M.T.; SPEKTOR, M.A.

Expansion of automatizarion and problem of the increase of labor productivity in coal mining in the German Federal Republic. Ugol' Ukr. 4 no.8:45 Ag '60. (MIRA 13:9)
(Germany, West--Coal mines and mining)

BELEVITIN, A.I., inzh.; SPEKTOR, M.A., inzh.

Combined indicator and miner's lamp. Bezop.truda v prom. 4 no.9:36 S '60. (MIRA 13:9)
(Mine lighting)

MATVEYEV, M.T., inzh.; SPEKTOR, M.A., inzh.

"Monopol'" cutter for niching (from "Glueckauf," no.15, 1960). (MIRA 14:5)
Ugol' Ukr. 5 no.5:43 My '61.
(Germany, West--Coal mining machinery)

CHERNYY, G.I.; SPEKTOR, M.A.

Weighing and recording of bulk loads on belt conveyers (from "Svensk bergs och brukstidning," no.11, 1959, no.1, 1960). Ugol' Ukr. 5 no.5:43-44 My '61. (MIRA 14:5)

(Sweden--Coal mining machinery)

BELASH, A.S., inzh.; SPEKTOR, M.A., inzh.

Remote and program control of underground transportation in Swedish mines (from "Jernkontorets Annaler," no.6, 1961). (MIRA 15:8)
Gor.zhur. no.8:52-53 Ag '62.

1. Institut avtomatiki Gosudarstvennogo planovogo komiteta Soveta Ministrov UkrSSR (for Belash). 2. Komitet po koordinatsii nauchno-issledovatel'skikh rabot Soveta Ministrov UkrSSR, Kiyev (for Spektor).
(Sweden--Mine railroads) (Remote control)

TROFIMOV, V.P.; SPEKTOR, M.A.

The use of explosives in Swedish mines. Met. i gornorud. prom. no.5:93-94 S-O '63. (MIRA 16:11)

SPEKTOR, M.B.

Use of "KRET" pneumatic diggers. Vest. sviazi 23 no.10:19-20 O '63. (MIRA 16:12)

1. Vedushchiy konstruktor Kiyevskogo otdeleniya TSentral'nogo nauchno-issledovatel'skogo instituta svyazi Ministerstva svyazi SSSR.

SPEKTOR, M. D.

Filter Presses.

Saving filter-press cloth. Sakh. prom. 26, No. 2, 1952.

Monthly List of Russian Accessions, Library of Congress, June 1952. Unclassified.

SPEKTOR, M.D.

It is necessary to review the standards of technological planning. Sakh.prom. 33 no.7:53-54 Jl '59. (MIRA 12:11)

1. Krasnodarskiy filial Giprosakhara.
(Sugar industry)

L 62567-65

ACCESSION NR: AP5019168 UR/0339/65/000/007/0026/0028
664.12

AUTHOR: Spektor, M. D.

TITLE: On the problem of bulk transportation of granular sugar

SOURCE: Sakharnaya promyshlennost', no. 7, 1965, 26-28

TOPIC TAGS: food, transportation / S654M bin, ZIL 585 sugar carrier

ABSTRACT: Two vehicles designed for bulk transportation of loose products are discussed. They were the sugar-carrier ZIL-585 described by V. A. Chernikov ("Sakharnaya promyshlennost'," 1964, No. 12) and the automatic bin S654M. Basic shortcomings of the ZIL-585 were the incomplete evacuation of its tank and the necessity of building auxiliary reception bins, elevators, and horizontal conveyors for sugar movement to the storage places. Better results were obtained with the automatic flour-bin S654M shown schematically on Fig. 1 of the Enclosure. Sugar was poured into its tank through 3 inlets; the truck was driven for 10 km on a rough road for sugar compaction, and unloaded at the warehouse straight to the sugar-bin by high pressure air drive the intensity of which decreased automatically during the unloading, reaching 1.5 atm. Total cycle of unloading 6 tons

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ACCESSION NR: AP5019168

of sugar required 55 minutes, with an additional 6 minutes spent in the lowering of the tank and checking its interior. This unloading time could be shortened by establishing optimal air velocity in the feeding duct. The use of S654M for sugar transportation would make it possible to build 10- to 12-meter high silos at consumer plants and to mechanize all the operations. A. I. Rogachev, Z. A. Belousova, A. A. Sollogub, I. I. Tikhiy, and V. D. Chakhal'yants participated in the experimentation. Orig. art. has: 1 table and 1 figure.

ASSOCIATION: Sevkavgipropishcheprom AA

SUBMITTED: 00 ENCL: 01 SUB CODE: LS,GO

NO REF SOV: 000 OTHER: 000

Card 2/3

L 62567-65
ACCESSION NR: AP5019168

ENCLOSURE: 01

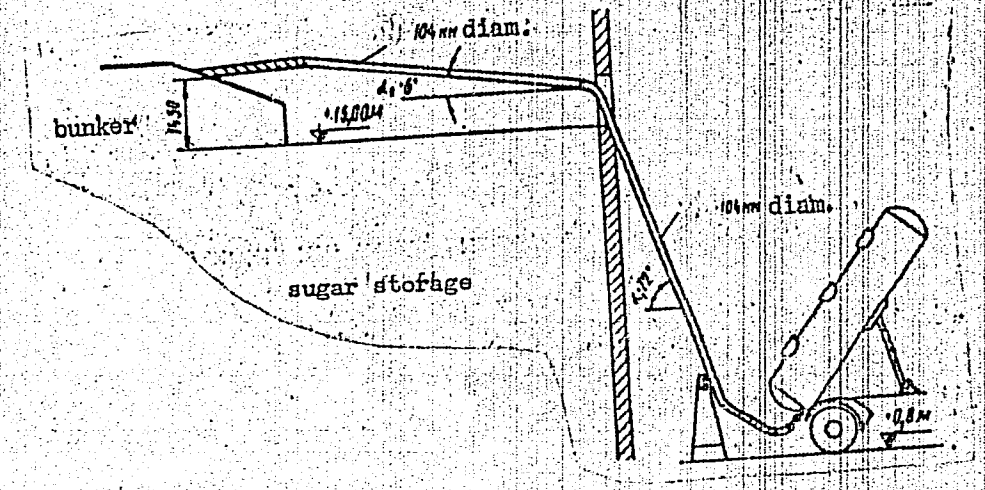

Fig. 1.
Scheme for sugar unloading from an automatic flour truck

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SHKURENKO, N.S.; POPOV, P.V.; SPEKTOR, M.D.

Using the vibration method to break rocky and frozen soils. (MIRA 15:5)
Trudy NII prom.zdan.i soor. no.4:75-88 '61.
(Excavation) (Vibration)

SPEKTOR, M.D.

Recording the trajectories of motion of an excavator bucket equipped with vibration and percussion teeth while digging rocky ground. Trudy NII prom.zdan.i soor. no.4:89-94 '61. (MIRA 15:5)
(Excavating machinery)

SPEKTOR, M.D., inzh.

Method of computing the productivity of single-bucket excavators digging at variable speeds. Izv. ASiA 4 no.2:91-93 '62. (MIRA 15:9)

(Excavating machinery)

SPEKTOR, M.D., inzh.

Technical and economic analysis of the installation of bearing elements in industrial buildings. Prom. stroi. 40 no.3:23-25 '62. (MIRA 15:3)

1. Nauchno-issledovatel'skiy institut po stroitel'stvu Akademii stroitel'stva i arkhitektury SSSR v Sverdlovske.
(Factories--Design and construction)

SPEKTOR, M.D., inzh.; MIRITIN, S.S., inzh.; SAFONOVA, L.I., inzh.; KOLESNICHENKO, V.V., inzh.

Potentials for increasing labor productivity in the assembly of elements of industrial buildings. Mont. i spets. rab. v stroi. 25 no.1:5-8 Ja '63. (MIRA 16:6)

1. Nauchno-issledovatel'skiy institut Akademii stroitel'stva i arkhitektury SSSR i trest Uralstal'konstruktsiya.
(Industrial buildings--Design and construction)

MICHKAREVA, V.I., inzh.; SPEKTOR, M.D., kand. tekhn. nauk; KAYZER, A.A., inzh.
PLAKHOTSKIY, I.A., inzh.; PUKHAREVA, L.A., inzh.

Porous unkilned fillers for lightweight concrete from pulverized ash of electric power plants. Stroi. mat. 10 no.11:34-35 N '64. (MIRA 18:1)

SHKURENKO, N.S., kand.tekhn.nauk; SPEKTOR, M.D., kand.tekhn.nauk

Effectiveness in construction work of excavator scoops with operative teeth. Mekh.stroi. 21 no.1:16-18 Ja '64. (MIRA 17:4)

SPEKTOR, M.D., kand. tekhn. nauk

Method of determining the optimal number of specialized flows in the construction of single-story industrial buildings. Prom. stroi. 42 no.10:5-7 O '64. (MIRA 17:11)

1. Uralpromstroyniiproyekt.

STREL'NIKOV, N.P.; BESPALOV, Ye.M.; SOKOLKIN, A.F.; SHPINEV, V.F.; KRUPENNIKOV, S.S.; SPEKTOR, M.D.

Some conclusions from the experiences of building a pipe rolling mill. Prom.stroi. 42 no.11:6-9 N '64. (MIRA 18:8)

1. Trest Uraltyazhtrubstroy (for Strel'nikov, Bespalov, Sokolkin). 2. Upravleniye kapital'nogo stroitel'stva Pervoural'skogo novotrubnogo zavoda (for Shpinev). 3. Uralpromstroyniiproyekt (for Krupennikov, Spektor).

SHKURENKO, N.S., kand. tekhn. nauk; RAKHLIN, A.B., inzh.; SPEKTORR, M.D., kand. tekhn. nauk; CHARIN, V.A., inzh.; PETUKHOV, P.Z., doktor tekhn. nauk; GURIN, M.A., kand. tekhn. nauk; KISELEV, B.N., inzh.

[Vibration method of working frozen ground] Vibrometod razrabotki merzlykh gruntov. Moskva, Stroiizdat, 1965. 182 p. (MIRA 18:3)

1. Kafedra pod"yemno-transportnykh mashin Ural'skogo politekhnicheskogo instituta im. S.M. Kirova (for Gurin, Kiselev).

SPEKTOR, M.D.; SHLYAKHTINA

Subacute dystrophy of the liver in labor. Akush. i gin. no.4: 74-75 Jl-Ag '54. (MLRA 7:11)

1. Iz rodil'nogo doma (glavnyy vrach M.D.Spektor) Blagoveshchenska.
(LIVER, diseases,
dystrophy, subacute, in labor)
(LABOR, complications,
liver dystrophy, subacute)